


- three-dimensional copolymers of methacrylonitrile and of at least one crosslinkable comonomer.

2. (Previously Amended) Solid polymer electrolyte according to Claim 1, wherein the methacrylonitrile polymer is a copolymer of methacrylonitrile and of a comonomer which is soluble in solvents with low boiling points.

3. (Canceled)

 4. (Previously Amended) Solid polymer electrolyte according to Claim 1, wherein the methacrylonitrile polymer is a copolymer of methacrylonitrile and of at least one acrylic or methacrylic comonomer.

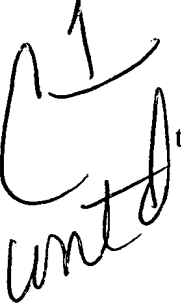
5. (Previously Amended) Solid polymer electrolyte according to Claim 4, wherein the methacrylonitrile polymer is a copolymer of methacrylonitrile and of at least one acrylic comonomer corresponding to the formula $\text{CHX}=\text{CZ}-\text{CO}-\text{V}-\text{Y}$, in which:

- X represents $\text{C}_n\text{H}_{2n+1}$, with $0 \leq n \leq 8$;
- Z represents $\text{C}_n\text{H}_{2n+1}$, with $0 \leq n \leq 8$, or $(\text{CH}_2)_m\text{CN}$, with $0 \leq m \leq 4$;
- V represents O, NH or NR, R represents $\text{C}_n\text{H}_{2n+1}$, with $0 \leq n \leq 8$;
- Y represents a $\text{C}_n\text{H}_{2n+1}$ radical, with $0 \leq n \leq 8$, a radical carrying an oxirane group $\text{C}_n\text{H}_{2n}-(\text{CH}-\text{CH}_2)-\text{O}$, with $1 \leq n \leq 4$, or a radical $[(\text{CH}_2)_m-\text{O}]_p\text{R}'$, in which $m = 2, 3$ or 4, $1 \leq p \leq 50$ and R' represents $\text{C}_n\text{H}_{2n+1}$, with $0 \leq n \leq 8$.

Claims 6-13 (canceled)

14. (Previously Amended) Solid polymer electrolyte according to Claim 2, wherein the methacrylonitrile polymer is a bipolymer of methacrylonitrile and of a monomer carrying an ionic functional group selected from the group consisting of carboxylate, phosphate, phosphonate, sulfonate and perfluorosulfonate.

Claim 15. (Canceled)

16. (Previously Amended) Solid polymer electrolyte according to Claim 4, wherein the comonomer is glycidyl acrylate or glycidyl methacrylate.

Claims 17-33 (canceled)

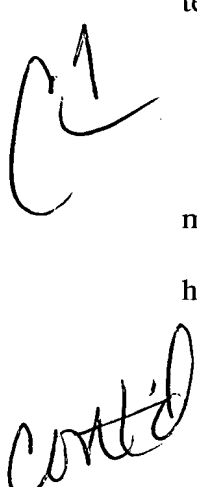
34. (Previously Added) Solid polymer electrolyte according to Claim 2, wherein the methacrylonitrile polymer is a copolymer of methacrylonitrile and of at least one acrylic or methacrylic comonomer.

Claims 35 and 36 (canceled)

37. (Previously added) Solid polymer electrolyte according to Claim 1, comprising at least one methacrylonitrile polymer chosen from linear homopolymers of high mass which are reinforced or from three-dimensional crosslinked homopolymers which are reinforced.

38. (Previously added) Solid polymer electrolyte according to Claim 1, wherein the methacrylonitrile polymer is a copolymer of methacrylonitrile and of a comonomer providing internal plasticization of the polymer by decreasing its glass transition temperature.

39. (Previously added) Solid polymer electrolyte according to Claim 1, wherein the methacrylonitrile polymer is a copolymer of methacrylonitrile and of a comonomer which has an ionic functional group in order to obtain a unipolar electrolyte.


Please add the following new claims 40-43:

--40. (New) Solid polymer electrolyte according to Claim 1, wherein said salt comprises at least one lithium salt chosen from the group consisting of lithium halides, lithium perfluorosulfonate, lithium (trifluoromethylsulfonyl)imide, lithium bis(trifluoromethylsulfonyl)methide, lithium tris (trifluoromethylsulfonyl)methide, lithium perchlorate, lithium hexafluoroarsenate, lithium hexafluorophosphate, lithium hexafluoroantimonate and lithium tetrafluoroborate.

41. (New) Solid polymer electrolyte according to claim 40, wherein said lithium halides are of the formula LiX where $\text{X} = \text{Cl}, \text{Br}, \text{I}$ or I_3 .

42. (New) Solid polymer electrolyte according to Claim 1, which additionally comprises at least one solvent chosen from propylene carbonate (PC), ethylene carbonate (EC), γ -butyrolactone, dimethoxyethane or dialkyl carbonates.

43. (New) A solid polymer electrolyte comprising a microporous membrane impregnated with a liquid electrolyte comprising a salt, wherein said membrane comprises at least one methacrylonitrile polymer selected from:

linear homopolymers of high mass;

three-dimensional crosslinked homopolymers;

linear methacrylonitrile copolymers of high mass; and

three-dimensional copolymers of methacrylonitrile and at least one crosslinkable comonomer.--
